



# NATIONAL PARK SERVICE

## Environmental Audit Program

### EnviroCheck Sheet

*Wastewater Management*  
*June 2002 Update*

#### WASTEWATER MANAGEMENT

Pollutants make surface water and groundwater unsafe for drinking, fishing, swimming, and other uses. As authorized by the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) permit program controls surface water pollution by regulating *point sources*, discrete conveyances such as pipes or man-made ditches, that discharge pollutants into waters of the United States. The Safe Drinking Water Act protects drinking water sources through the Underground Injection Control (UIC) Program, which regulates the disposal of wastes into the subsurface through injection wells. This EnviroCheck sheet provides information to allow a user to determine whether a facility's wastewater discharges are in compliance with applicable environmental regulations.

Wastewater is generated from a variety of sources at parks, including:

- Steam cleaning or pressure washing vehicles, parts, and equipment;
- Maintenance shop floor cleaning;
- Drips and spills from vehicles and equipment;
- Boiler blowdown and condensate, air compressor condensate, and others; or
- Park staff and visitor sanitary waste.

This wastewater may drain to shop floor drains, parking lot catch basins, or culverts. The wastewater can be discharged through various routes, including:

- Direct discharge to surface waters (e.g., nearby lakes streams or storm sewers);
- To the subsurface via underground injection wells which include on-site septic systems, cesspools, french drains, etc; or
- To a sanitary sewer (either a park sewage treatment plant or publicly owned treatment works).

The impact of these discharges on receiving waters depends on the level of contamination of the wastewater and treatment the water receives prior to discharge. The park should avoid discharging all but pure rainwater directly to storm water systems or other culverts that allow untreated water to be directed towards surface water or groundwater.

If parks use on-site treatment systems, they must ensure that those systems are properly designed to handle the wastewater and are permitted in compliance with regulatory requirements. The parks should also look for ways to minimize the generation of these wastewaters to reduce water consumption costs, treatment and handling costs, and environmental liability.

## Auditor's Guidelines:

### Records to Review

- NPDES Permits
- NPDES Permit renewal applications (for permits that expire within 180 days)
- Discharge monitoring reports for the past year
- Diagrams of sewer and storm drain layout
- Sampling records and sample shipping records
- UIC Permits for Injection Wells
- UIC well inventory/registration forms

### Features to Observe

- Discharge outfall pipes
  - Underground injection wells such as septic systems, cesspools, storm drains, or french drains
- Streams, rivers, open waterways
- Floor and sink drains
- Storm water collection points
- Campground sewage dump stations or pumpouts
- Wastewater treatment plants
- Oil/water separators
- Ranger activities

### Persons to Contact

- Wastewater treatment plant operator
- Maintenance supervisor
- Auto shop mechanic
- Rangers

## DEFINITIONS

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*Direct discharge:* Discharge to the land or water without any treatment.

*General Permit:* A class of NPDES permit that authorizes a category of discharges or activities under the CWA within a particular geographical area. One category of discharge common to NPS facilities is surface discharge of treated groundwater from a pump and treat system associated with groundwater remediation at an underground storage tank (UST).

*Individual permit:* A category of NPDES permit that authorizes discharges from a specific facility.

*National Pollutant Discharge Elimination System (NPDES):* The national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of Clean Water Act.

*Non-point source discharge:* A discharge that is not traceable to a single originating point. An example of non-point source discharges would be pesticide/fertilizer runoff from agricultural fields.

*Point source discharge:* A discharge from any discernible confined and discrete conveyance such as a pipe, ditch, channel, or conduit.

*Pretreatment:* The reduction, elimination, or alteration of pollutants in wastewater prior to or in lieu of discharging to a POTW (e.g., operation of an oil/water separator).

*Publicly Owned Treatment Works (POTW):* Local treatment facility that receives, treats, and discharges wastewater and is designed primarily to treat sewage (sanitary wastewater), not maintenance wastewaters. The POTW may be an NPS or municipally-owned/operated plant.

*Sanitary sewer:* A pipe or conduit (sewer) that carries wastewater or water-borne wastes from homes, businesses, and industries to the POTW.

*Underground sources of drinking water (USDW):* An aquifer that supplies any public water system; or contains a sufficient quantity and quality of groundwater to supply a public water system.

*Underground Injection Control Program (UIC):* Regulatory program responsible for implementing and enforcing federal and state rules and regulations regarding the construction and operation of injection wells.

*Wastewater:* Water that has been mixed or contaminated with a pollutant. For purposes of this check sheet, wastewaters fall into the following categories:

- Sanitary wastewater - Domestic wastewater or sewage that would generally be generated from bathrooms or kitchens. Sanitary wastewater may be discharged to septic systems or to a POTW.
- Maintenance wastewater - Wastewater generated as a result of maintenance operations at the park. Such operations may include, but are not limited to, painting operations, vehicle and equipment maintenance, building maintenance, or landscaping activities. Maintenance wastewater commonly contains pollutants such as petroleum hydrocarbons that should not be discharged to septic systems or to the POTW (unless expressly allowed by the local sewer authority). Maintenance wastewater may also be referred to as industrial wastewater (as it is referenced in the regulations).

*Waters of the United States:* All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States include but are not limited to all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. [See 40 CFR 122.2 for the complete definition.]

## LEGAL REQUIREMENTS

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### Federal

#### *The Clean Water Act (CWA) and the National Pollutant Discharge Elimination System (NPDES)*

The CWA is the primary federal statute regulating the protection of the nation's waters. The CWA was enacted in 1972 in response to nationwide water pollution issues and was amended in 1977 and 1987. The CWA established national programs for the prevention, reduction, and elimination of pollution in navigable waters and groundwater.

The CWA prohibits anyone from discharging "pollutants" from a "point source" into a "water of the United States" (each of these terms is discussed below) without a permit. The permitting system established under the CWA is the National Pollutant Discharge Elimination System (NPDES) Program. Of relevance to NPS facilities, the NPDES permit program includes the discharge and treatment of wastewater and storm water. (For requirements applicable to storm water, see the Storm Water Management EnviroCheck Sheet.)

#### *The Safe Drinking Water Act (SDWA) and the UIC Program*

The SDWA authorizes EPA to protect the quality of drinking water in the United States, and specifically mandates the regulation of underground injection of fluids through wells. The EPA has promulgated a series of underground injection control (UIC) regulations under this authority. The SDWA established the Underground Injection Control (UIC) Program to provide safeguards to ensure that underground injection wells do not endanger current and future underground sources of drinking water (USDW). State water authorities should be contacted to determine whether aquifers beneath the park have been designated as current or potential USDWs.

## State

In most cases, the NPDES permit program is administered by authorized states. The EPA has delegated primary regulatory authority to those states, otherwise known as primacy, to implement permitting programs meeting EPA requirements. For the most up-to-date information regarding state program status, see EPA's Office of Wastewater Management website at <[http://cfpub.epa.gov/npdes/statestats.cfm?program\\_id=12](http://cfpub.epa.gov/npdes/statestats.cfm?program_id=12)>. It is the auditor's responsibility to determine which elements of the CWA the state is authorized to implement. The auditor must also keep in mind that state program requirements may be more stringent than the federal program. For example, states may require storm water permits for additional types of facilities (e.g., vehicle maintenance facilities) and have more stringent effluent limits than the federal program. States may also require a state permit for sewer discharges to a POTW.

In states that have **not** received primacy, referred to as Direct Implementation States, the EPA is the responsible regulatory agency.

Like the NPDES permit program, the UIC program is administered by authorized states. The EPA has delegated primary regulatory authority to those states, also known as primacy, to implement permitting programs meeting EPA requirements. For the most up-to-date information regarding state program status, see EPA's Office of Water website at <<http://www.epa.gov/safewater/uic/primacy.html>>. Once again it is the auditor's responsibility to determine which elements of the UIC program the state is authorized to implement, and the auditor must be aware that state program requirements may be more stringent than the federal program.

## Local

Local authorities may impose the following requirements:

- *Sewer Ordinance and Discharge Permits.* To ensure that a facility operates properly and meets permit requirements, local POTW authorities may develop sewer ordinances that establish allowable discharge limits (e.g., pH, oil and grease, metals). The POTW may also require that sources be permitted through a local permit program.
- *Septic Systems Requirements.* On-site septic systems (unless they are large-capacity systems) are typically regulated by the local municipality or county health agency. Septic systems used in maintenance areas may be required by ordinance to have pretreatment systems (e.g., grease traps, oil/water separators). Large-capacity septic systems (systems that have the capacity to serve 20 or more persons per day) are regulated under the UIC Program.

## COMPLIANCE REQUIREMENTS

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Sanitary waste may be treated and disposed of onsite via direct discharge to surface waters or discharged to the subsurface via an onsite septic system. If parks use on-site treatment systems, they must ensure that those systems are properly designed to handle the wastewater and are permitted in compliance with regulatory requirements. Similarly, if sanitary wastes are disposed of via direct discharge to surface water, they must be in compliance with NPDES permitting requirements.

Disposal of the other categories of wastewater, such as wastewater related to motor vehicle maintenance, can be more problematic. In some cases, the UIC regulations prohibit the subsurface disposal of motor vehicle waste, whether the waste is treated (such as in an oil/water separator) or not. Sewage treatment plants may be permitted to treat and dispose of maintenance waste streams, but this must be verified with the appropriate regulatory authority. Alternatives to treatment of this type of wastewater include the use of a closed loop shop wastewater recycling system or the operation of a "dry shop," where wastewater is not generated in the first place.

## Scope of the NPDES Program

The CWA requires that all point source discharges into United States waterways have an NPDES permit. Implemented by the state or EPA Regional Office, the permit includes limits on *what* can be discharged, *how much* can be discharged (specific level of contaminants within the discharge), how often *monitoring* and *reporting* is required, and other provisions to protect human health. NPDES permits are valid for five years and can be renewed or reissued.

All facilities that discharge *pollutants* from any *point source* into *waters of the United States* are required to obtain an NPDES permit. Understanding how each of these key terms (“pollutant,” “point source,” and “waters of the United States”) have been defined and interpreted by the regulatory agencies is the key to defining the scope of the NPDES Program.

The term “pollutant” is defined very broadly by the regulations. It includes any type of industrial, municipal, and agricultural waste discharged into water. Some examples are dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste.

Pollutants can enter waters of the United States from a variety of pathways, including agricultural, domestic, and industrial sources. (Note: An NPS facility may be considered an “industrial source” for the purposes of regulating wastewater discharges.) For regulatory purposes these sources are generally categorized as either point sources or non-point sources. As defined above, point source discharges are discharges from a discrete conveyance such as a pipe, ditch, channel, or conduit. Point source discharges include discharges from waste disposal areas, landfill or dumpsites, aboveground storage tanks, and chemical or oil spills.

EPA defines the term “waters of the United States,” to include:

- Navigable waters;
- Tributaries of navigable waters;
- Interstate waters; and
- Intrastate lakes, rivers, and streams which are:
  - Used by interstate travelers for recreation and other purposes;
  - Sources of fish or shellfish sold in interstate commerce; or
  - Utilized for industrial purposes by industries engaged in interstate commerce.

The definition has been interpreted to include virtually all surface waters in the United States, including wetlands and ephemeral streams. As a general matter, groundwater is not considered a water of the United States; therefore, discharges to groundwater are not subject to NPDES requirements. If, on the other hand, there is a discharge to groundwater that has a “hydrological connection” to a nearby surface water, the discharger may be required to apply for an NPDES permit because the discharge is then considered a water of the United States. States may choose to require NPDES permits for discharges to groundwater; states maintains jurisdiction over groundwater resources.

### *Types of NPDES Permits*

An NPDES permit is a license for a facility to discharge a specified amount of a pollutant into a receiving water under certain conditions. The two basic types of NPDES permits issued are individual and general permits.

An **individual permit** is a permit specifically tailored to an individual facility. Once a facility submits the appropriate application(s), the permitting authority develops a permit for that facility based on the information contained in the application (e.g., type of activity, nature of discharge, receiving water quality). The authority issues the permit to the facility for a specific time period (not to exceed five years) with a requirement that the facility reapply prior to the expiration date.

A **general permit** covers multiple facilities within a specific category of discharges (categories are determined by the permitting authority, not the permittee). General permits may offer a cost-effective option for permitting authorities because of the large number of facilities that can be covered under a single permit. 40 CFR §122.28 states that general permits may be written to cover categories of point sources having common elements, such as:

- Facilities that involve the same or substantially similar types of operations;
- Facilities that discharge the same types of wastes or engage in the same types of sludge use or disposal practices;
- Facilities that require the same effluent limits, operating conditions, or standards for sewage sludge use or disposal; and
- Facilities that require the same or similar monitoring.

General permits may only be issued to dischargers within a specific geographical area such as city, county, or state political boundaries; designated planning areas; sewer districts or sewer authorities; state highway systems; standard metropolitan statistical areas; or urbanized areas. By issuing general permits, the permitting authority allocates resources in a more efficient manner to provide more timely permit coverage. For example, a large number of facilities that have certain elements in common may be covered under a general permit without expending the time and money necessary to issue an individual permit to each of these facilities. In addition, using a general permit ensures consistency of permit conditions for similar facilities.

All NPDES permits, at a minimum, consist of five general sections:

1. Cover Page - Typically contains the name and location of the permittee, a statement authorizing the discharge, and the specific locations for which a discharge is authorized.
2. Effluent Limits - The primary mechanism for controlling discharges of pollutants to receiving waters. Permit writers spend a majority of their time deriving appropriate effluent limits based on applicable technology-based and water quality-based standards.
3. Monitoring and Reporting Requirements - Used to characterize waste streams and receiving waters, evaluate wastewater treatment efficiency, and determine compliance with permit conditions.
4. Special Conditions - Conditions developed to supplement effluent limit guidelines. Examples include: best management practices (BMPs), additional monitoring activities, ambient stream surveys, and toxicity reduction evaluations (TREs).
5. Standard Conditions - Pre-established conditions that apply to all NPDES permits and delineate the legal, administrative, and procedural requirements of the permit.

Every permit contains these five basic sections, but the contents of sections will vary depending on whether the permit is issued to a municipal or non-municipal facility and whether the permit will be issued to an individual facility or to multiple dischargers (i.e., a general permit).

### Scope of the UIC Program

The UIC Program, authorized under the Safe Drinking Water Act, regulates the injection or placement of fluids into the subsurface through wells. The UIC regulations define an injection well as any bored, drilled, or driven shaft, or a dug hole, where the depth is greater than the largest surface dimension, that is used to discharge fluids underground. This definition covers a wide variety of injection practices that range from technically sophisticated wells that pump fluids into isolated formations up to two miles below the Earth's surface, to on-site drainage systems, such as septic systems, cesspools, and storm water wells, that discharge fluids a few feet underground. The goal of the federal UIC Program is to determine the soundness of construction and operation of injection wells as they relate to the protection of all USDWs.

The EPA groups underground injection into five classes for regulatory control purposes. Each class includes wells with similar functions, construction, and operating features so that technical requirements can be applied consistently to the class. The five classes are defined below:

- Class I includes the emplacement of hazardous and non-hazardous fluids (industrial and municipal wastes) into isolated formations beneath the lowermost USDW. Because they may inject hazardous waste, Class I wells are the most strictly regulated wells under the UIC program and are also regulated under the Resource Conservation and Recovery Act.
- Class II includes injection of brines and other fluids associated with oil and gas production;
- Class III encompasses the injection of fluids associated with solution mining of minerals;
- Class IV addresses injection of hazardous or radioactive wastes into or above a USDW and is banned unless authorized under other Statutes for groundwater remediation. (NOTE: Authorized states can define what constitutes a “hazardous” waste. Therefore, the state authority must be consulted to ensure compliance. See <[http://cfpub.epa.gov/npdes/contacts.cfm?program\\_id=12&type=STATE](http://cfpub.epa.gov/npdes/contacts.cfm?program_id=12&type=STATE)> for information about state water program contacts.)
- Class V includes all underground injection not included in Classes I-IV. Class V wells inject non-hazardous fluids into or above a USDW and are typically shallow, on-site disposal systems, such as floor and sink drains that discharge directly or indirectly to ground water, dry wells, leach fields, and similar types of drainage wells.

(NOTE: Injection practices or wells that are exempt from the UIC Program include individual residential waste disposal systems that inject ONLY sanitary waste and commercial waste disposal systems that serve fewer than 20 persons that inject ONLY sanitary waste.)

Most NPS facilities have only Class V underground injections wells. Although some Class V wells are technologically advanced wastewater disposal systems, most are “low-tech” wells, such as septic systems and cesspools. Generally, they depend on gravity to drain or “inject” liquid waste into the ground above or into underground sources of drinking water. Their simple construction provides little or no protection against possible groundwater contamination, so it is important to control what goes into them.

Following are examples of Class V wells that could be found at NPS facilities:

- Cesspools including multiple dwelling, community or regional cesspools, or other devices that receive wastes that have an open bottom and sometimes have perforated sides. The UIC requirements do not apply to single family residential cesspools nor to non-residential cesspools that receive solely sanitary wastes and have the capacity to serve fewer than 20 persons a day.

- Septic system wells used to inject the waste or effluent from a multiple dwelling or business establishment septic tank. The UIC requirements do not apply to single family residential septic system wells, nor to non-residential septic system wells which are used solely for the disposal of sanitary waste and have the capacity to serve fewer than 20 persons a day.
- Storm water drainage wells used to drain storm water runoff from impervious surfaces, such as roads and parking lots, to prevent flooding.
- Sewage treatment effluent (STE) wells used for the shallow disposal of treated sanitary waste from publicly owned treatment works or treated effluent from a privately owned treatment facility that receives only sanitary waste.
- Special drainage wells that include potable water tank overflow wells, construction dewatering wells, swimming pool drainage wells, and mine dewatering wells. These drainage wells receive fluids that cannot be classified as agricultural, industrial, or storm water.

All Class V wells are regulated by UIC Programs that are implemented by the state or EPA region in which the well is located. Current federal requirements prohibit any injection activity that may endanger underground sources of drinking water. Also, the current federal regulations require all owners and operators of Class V wells to provide inventory information (location, legal contact, nature of the injection activity, etc.) to the authorized UIC authority.

In December 1999, EPA published new requirements for large capacity cesspools and motor vehicle waste disposal wells, two types of Class V wells, banning new wells nationwide.

#### Large Capacity Cesspools

The EPA considers a cesspool “large capacity” when used by:

1. A multiple dwelling, community or regional system for the injection of waste (e.g., a townhouse complex or apartment building), or
2. Any non-residential cesspool that is used solely for the disposal of sanitary waste and has the capacity to serve 20 or more people per day (e.g., a rest stop or church).

The definition of large capacity may vary from State to State, but should be comparable to the Federal definition. Some examples of alternative definitions include use waste flow rates or cesspool volume capacity to classify a cesspool as large-capacity. Check with the appropriate State UIC Program for more information

Existing wells are banned in state-designated “groundwater protection areas” as defined by 40 CFR 144.86(c) and other state-designated sensitive groundwater areas as defined by 40 CFR 144.85(g).

#### Motor Vehicle Waste Disposal Wells

Motor vehicle waste disposal wells are typically shallow disposal systems that receive or have received fluids from vehicular repair or maintenance activities, such as an auto body repair shop, automotive repair shop, new and used car dealership, specialty repair shop (e.g., transmission and muffler repair shop), or any area where vehicular repair work is performed. Generally motor vehicle waste disposal wells are floor drains or sinks in service bays that are tied into a shallow disposal system. Most commonly these shallow disposal systems are **septic systems** or **dry wells**, but any underground system that receives motor vehicle waste would be considered a motor vehicle waste disposal well. A variety of names are used to describe shallow disposal systems including: cesspools, catchbasins, sink holes, underground vaults, or drain tanks to name a few.

### **Determining What Permits and Regulations Apply to a Park Facility**

After understanding the types of permits or regulations that may apply to a facility’s operations, an auditor can then determine if specific park operations trigger those requirements, particularly the requirements to apply for an individual NPDES permit. To determine applicable wastewater management requirements, a facility must

This document does not necessarily contain all information needed to determine compliance status.
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inventory its wastewater discharges, determine where the wastewater is being discharged, and determine if the discharges are compliant with applicable regulations.

#### *Inventory Wastewater Discharges*

To determine which water quality regulations affect an NPS facility, the park must first inventory the places where water is used and wastewater is generated (e.g., maintenance and auto shops). Knowing where wastewater is generated is necessary in determining both the best disposal methods and what regulations (e.g., permitting requirements) apply to park operations. Some questions to ask include:

- What are the sources of wastewater?
- How are these wastewaters generated?
- What pollutants does the wastewater contain?

[Note: An inventory of wastewater discharge should also include an inventory of all storm water discharges. See the Storm Water Management Check Sheet for more information.]

#### *Determine Where Wastewater is Being Discharged*

After determining *what* is discharged, a park must then determine *where* it is going. Wastewaters can be discharged, to the following:

- Septic tanks, cesspools, or other Class V wells;
- Sanitary sewer; or
- Surface water

#### *Discharge to Septic Tanks, Cesspools, or Other Class V Wells*

Wastewater, other than sanitary wastes, should never be discharged to a septic system or a cesspool. These systems are designed to handle kitchen and bathroom wastes only, not maintenance wastewater. Maintenance wastewaters may have pollutants that could contaminate soil or groundwater or neutralize biologic media in the system. Maintenance wastewater discharged to a septic system may lead to groundwater contamination that can be expensive and difficult to clean up. As discussed above, Class V wells are subject to UIC regulatory requirements. It is possible that Class V wells could also be required to have an NPDES permit if the well directly discharges wastewater to “waters of the United States” as defined earlier in this checksheet.

#### *Discharge to a POTW Via a Sanitary Sewer*

If a park is not connected to a local treatment facility, wastewater may be collected in a tank, pumped out periodically, and transported to a drop-off point in the sanitary sewer district or at the treatment plant. Facilities that pump out septic systems usually provide a pumping and transporting service for industrial wastewater.

**Prior to discharging any material to a POTW via a sanitary sewer, facilities must receive approval from the local wastewater treatment plant. Pouring or dumping most facility and vehicle maintenance liquids (e.g., solvents, fuels, oils, antifreeze, and toxic and extreme pH chemicals) down the drain or to the storm sewer is prohibited, even if the drain goes to a treatment system, septic system, or leach field.**

#### *Discharge to Surface Water*

Discharging wastewater to surface water (e.g., lake, stream, storm sewer) requires an NPDES permit. An NPDES permit would be required for the discharge of most maintenance wastewaters. NPDES permit requirements may include:

- Strict effluent limits in order to protect the environment.
- Use of treatment systems such as an oil-water separator.

- Conducting vehicle and equipment washing and other maintenance activities in a contained area so that the washwater can be collected and properly treated/disposed.

NOTE: Storage or transfer of materials and products outdoors is also covered under a general permit, which is described in the Storm Water Management EnviroCheck Sheet.

## MISCELLANEOUS WASTEWATER ISSUES

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### *Permitting Exemptions*

Some wastewater discharges may be exempt from permitting (e.g., air conditioner condensate). States should be consulted to determine what those exemptions might apply.

### *Oil/Water Separators*

An oil/water separator is a system that allows for the separation of free oils (e.g., hydrocarbon and other petroleum products) from water. Parks can utilize oil/water separators in parking lots or maintenance bays. After leaving the separator, the wastewater stream is usually discharged to a POTW or a park's wastewater treatment plant, provided that the wastewater meets effluent limitations established by the wastewater treatment plant. Separators may also discharge their wastewater into storm drains, septic systems, leach fields, retention and settling ponds, or constructed marshlands. In these cases, parks may need to obtain a UIC permit and/or an NPDES permit that sets the levels at which various pollutants, including oil, grease, and heavy metals, are acceptable prior to being discharged.

### *Contractor/Concessions Maintenance Wastewater Operations*

Contractors/concession operators or the park may be designated as the NPDES permit holder for a wastewater discharge permit, depending upon how the contract responsibilities are defined. In either event, it is the responsibility of the NPS to ensure that contractor/concession maintenance facilities on NPS property are in compliance with federal, state, or local regulations and permit requirements. This can be accomplished through:

- Periodic inspection of contractor/concessioner/ maintenance facilities to identify compliance issues and point out pollution prevention opportunities;
- Ensuring contract language clearly defines concessioner and contractor roles and responsibilities for wastewater management where applicable (e.g. language specifying grease trap maintenance procedures and schedules); and
- Review of contractor/concessioner discharge permits and discharge monitoring reports (DMRs).

### *Design and Maintenance of Treatment Systems*

Regulators regularly give violations for improperly maintained pretreatment/treatment systems. If an NPS facility has a pretreatment/treatment system, it must be properly designed, operated, and maintained. For instance:

- Systems must be designed for average and maximum flows.
- Solvents and water-soluble materials should not be discharged to oil/water separators. These materials will pass through the system.
- Oil/water separators, grease traps, sumps, and septic tanks must be cleaned out periodically. The sludge removed from these units may be *hazardous waste*. The wastes should be properly characterized and disposed of based on that characterization. (Refer to the Hazardous Waste Management EnviroCheck Sheet.)

## REQUIREMENTS APPLICABLE TO PARKS OPERATING ON-SITE WASTEWATER TREATMENT PLANTS

Parks that operate wastewater treatment plants are required to take samples of their effluent to assure it meets permit requirements. Sampling is to be conducted in accordance with 40 CFR 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants." To fully audit sampling practices, the auditor should review the standard operating procedure (SOP) used by the person doing the sampling and determine whether the sampling is actually conducted in accordance with the SOP.

## COMMON VIOLATIONS OF CWA REGULATIONS DISCOVERED AT FEDERAL FACILITIES

Several EPA regions have developed a list of common violations that have been discovered during multi-media compliance audits at federal facilities. These lists do not include all program areas addressed by the NPS Environmental Audit Program. However, since EPA has specifically identified these issues as common compliance violations, they are being identified in the appropriate check sheet. Auditors should keep these issues in mind as they review check sheet audit questions. EPA-identified violations of Clean Water Act requirements include:

### *Underground Injection Control (UIC):*

- Unauthorized and unpermitted injection (e.g. operation of wells without a permit).
- Endangerment (e.g. injection of material into wells which may adversely affect human health).

### *National Pollutant Discharge Elimination System (NPDES):*

- Failure to obtain a NPDES permit for wastewater discharges.
- Nitrate (e.g., fertilizers) discharges exceed NPDES permit.

## POLLUTION PREVENTION

Pollution prevention can be effective in reducing the toxicity and volume of maintenance wastewaters at parks. Plugging drains and minimizing the use of water in washing and cleanup operations can reduce the pollutants in wastewater. Opportunities should be assessed and implemented prior to the installation of costly treatment systems and discharge permitting. Some maintenance wastewater pollution prevention opportunities are provided below.

### Wastewater Pollution Prevention Opportunities at Parks

- Evaluate floor drain connections to septic tanks and French drains. Reroute to sanitary sewers. Use plugs to prevent discharges from normal activities or spills.
- Label all storm drain catch basins "NO DUMPING, DRAINS TO CREEK, RIVER, OCEAN."
- Keep solvents, fuels and oils, and extreme pH and toxic chemicals segregated from wastewaters as much as possible.
- Pre-wipe components before cleaning to minimize water usage and the amount of pollutants in the wastewater.
- Use recycling, closed-loop systems for vehicle and equipment washing.
- Use steam versus high pressure in vehicle and equipment washing to reduce water usage and cleaning effectiveness.
- Clean vehicles and equipment at an off-site location that has proper washwater collection and treatment/disposal facilities.
- Make sure pretreatment/treatment systems are properly maintained.
- Use wet vacuums to clean up spills rather than flushing with water or using absorbents.
- Knock the snow and ice off vehicles outside so the meltwater inside the bay is minimized.

This document does not necessarily contain all information needed to determine compliance status.

### Wastewater Pollution Prevention Opportunities at Parks

- Use good housekeeping practices to minimize spillage and leaks during maintenance activities; keep tops on containers, drip pans under spicketed drums, spill pallets, etc.
- Place signs at potential discharge points (e.g., recreational vehicle clean-outs, maintenance shops, food service facilities) warning users that nonsanitary sewer discharges can disrupt wastewater treatment plants
- Use good housekeeping in the parking lots and facility yard and restrict outdoor activities such as steam cleaning and equipment and vehicle washing. Fewer pollutants on the ground means fewer pollutants picked up in storm water.
- Look for opportunities to use environmentally friendly materials in maintenance activities such as biodegradable/pH neutral soaps, propylene glycol antifreeze, less caustic boiler chemicals, etc.

### FOR MORE INFORMATION

- Clean Water Act sections on discharge prohibition and permitting <<http://www4.law.cornell.edu/uscode/33/1311.html>>
- US Department of Energy, Federal Energy Management Program, "Greening Federal Facilities Resource Guide," <<http://www.eren.doe.gov/femp/techassist/greening.html>>.
- Auto Repair Virtual Guide wastewater management information for vehicle repair shops <<http://www.ccar-greenlink.org/vshops/vshop1/drain.html>>
- NPS Hazardous Waste Management Team. 202-565-1240
- NPS Fuel Storage Management Handbook, regarding Oil Water Separator Design.
- EPA Class V assistance page, with link to "Small Entity Compliance Guide - How the New Motor Vehicle Waste Disposal Well Rule Affects Your Business," <<http://www.epa.gov/safewater/uic/c5imp.html>>
- EPA Office of Wastewater Management <<http://www.epa.gov/owm/>>



# NATIONAL PARK SERVICE Environmental Audit Program EnviroCheck Sheet

*Wastewater Management  
June 2002 Update*

CHECKLIST ITEM	PRIORITY	NOTES
1. The proper regulatory authority has been contacted to determine: <ul style="list-style-type: none"> <li>Who the regulatory authority is with regard to UIC requirements and NPDES permitting or rule authorization (the state or EPA);</li> <li>Whether any of the facility's activities (e.g., vehicle washing) are required to have a permit or rule authorization for discharges to surface water, to a POTW or to an underground injection well;</li> <li>Whether the state or local agency imposes regulations that are stricter than the federal regulations; and</li> <li>Whether the facility is complying with state and local water quality requirements and applicable permits.</li> </ul> [BMP]	3	
2. Park staff have identified all areas in the park where water is used and wastewater is generated (e.g. maintenance and auto shops). [BMP]	3	
3. Park staff have identified where each wastewater source is discharged (e.g., via storm drains to surface water, to the POTW, floor drain piping to a French drain). [BMP]	3	
4. All floor drains, or other piping that could serve as a conduit to discharge wastewater, have been plugged to control un-permitted discharges. [BMP]	3	
<b><i>Underground Injection Control Program Requirements</i></b>		
5. Park staff is aware of UIC Program requirements applicable to park septic systems, cesspools or any other systems that could be classified as a Class V injection well. [BMP]	3	
6. Unless otherwise allowed by a UIC permit, only sanitary wastes (e.g. typical kitchen and bathroom wastes) are discharged to the park's septic system. [40 CFR 144.1(g)(2)]	2	
7. Class V injection wells at the park have been inventoried and that inventory information was submitted to the authorizing agency. The inventory will include, at a minimum, the following information: <ul style="list-style-type: none"> <li>Facility name and location;</li> <li>Name and address of legal contact;</li> <li>Ownership of facility;</li> <li>Nature and type of injection wells; and</li> <li>Operating status of injection wells.</li> </ul> [40 CFR 144.83(a); Note: Inventory reporting requirements differ by state. Authorizing states must be contacted to determine information required.]	2	
8. No large-capacity cesspools or motor vehicle waste disposal wells are operated at the park (see description of these well types on page 8, above). [40 CFR 144.88]	2	

This document does not necessarily contain all information needed to determine compliance status.

CHECKLIST ITEM	PRIORITY	NOTES
<p align="center"><b>NPDES Permit Requirements</b></p> <p align="center"><i>Questions 9-18 are applicable if the facility has a local, state, or federally-issued permit related to the park's discharge of wastewater to surface water or to a POTW.</i></p>		
9. Sanitary wastes or maintenance wastewater discharged to a sanitary sewer connected to the local POTW meet the requirements of the POTW (i.e., documentation is maintained indicating whether or not a permit is required to discharge wastewaters generated by park operations). [Site applicable local code]	2	
10. Any wastewater discharged to surface water is done in conformance with an NPDES permit issued by the state or EPA if required (discharges requiring a permit may include, but not be limited to discharges from laboratories, vehicle washing, and wastewater treatment plants, or wastewater discharges to a storm sewer, such as a floor drain). [40 CFR 122.1(b) and Permit sections]	2	
11. Permits accurately describe regulated activities at the park (i.e., permit limitations reflect actual operating conditions), including, but not limited to: <ul style="list-style-type: none"> <li>• The description of the park and its wastewater treatment processes;</li> <li>• All discharge points at the park;</li> <li>• The description of any wastewater treatment;</li> <li>• Listed chemicals used at the park;</li> <li>• Effluent limitations; and</li> <li>• The consistency of analytical data recorded on the discharge monitoring reports.</li> </ul> [40 CFR 122.41; Auditor should cite permit sections if facility is not meeting permit requirements.]	2	
12. Procedures are in place to assure that regulated discharges remain within the parameters of the permit. [Auditor should cite permit sections if facility is not meeting permit requirements.]	2	
13. Discharges from oil/water separators are in conformance with permit requirements or local POTW requirements. [Site permit section or local code]	2	
14. SOPs are developed and implemented for regular preventive maintenance and inspections of wastewater treatment systems. [BMP or permit requirement]	2 or 3	
15. Records of all data and any supplemental information used to complete submitted permit applications are kept for at least three years from the date the application is signed. [40 CFR 122.21(p)]	2	
16. The permitting authority (the state or EPA) is notified of any planned physical alterations to the park that add or change permitted discharges. [40 CFR 122.41(l)]	2	
17. A renewal application is submitted for permit renewal in a timely manner (usually 180 days) before the permit expires. [40 CFR 122.6(a)(1)]	2	
18. Sampling of wastewater is conducted in accordance with proper collection, testing, preservation, and shipping procedures, including: <ul style="list-style-type: none"> <li>• Using proper sample containers;</li> <li>• Properly preserving samples prior to analysis;</li> <li>• Using proper preservation techniques;</li> <li>• Conforming with sampling holding times requirements prior to analyses; and</li> <li>• Maintaining the chain of custody from the sampling point through testing to results.</li> </ul> Results are reported in the park's self-monitoring report. [40 CFR 136.1-136.4]	2	

CHECKLIST ITEM	PRIORITY	NOTES
<b><i>Disposal</i></b>		
19. If a wastewater treatment unit that generates sludge is operated at the park, the sludge is analyzed to determine if it is a hazardous waste and is disposed of accordingly. [40 CFR 262.11. See the Hazardous Waste Management EnviroCheck Sheet for information regarding appropriate regulations applicable to management of a hazardous waste.]	2	
<b><i>Pollution Prevention</i></b>		
20. Pollution prevention opportunities have been addressed to eliminate or reduce maintenance wastewater discharges by implementing such activities as: <ul style="list-style-type: none"> <li>• Developing an SOP to minimize the use of water in areas where hazardous materials (including vehicle fluids) are used;</li> <li>• Plugging floor drains;</li> <li>• Providing warning labels on drains and catch basins;</li> <li>• Implementing process and equipment changes;</li> <li>• Providing personnel training and awareness; and/or</li> <li>• Implementing good housekeeping procedures.</li> </ul> [BMP]	3	
21. Procedures are implemented to: <ul style="list-style-type: none"> <li>• Verify that contractors and concessioners are complying with regulatory and permit requirements for maintenance wastewaters they generate; and</li> <li>• Keep maintenance wastewaters from upsetting the park wastewater treatment process.</li> </ul> [BMP]	3	
22. Procedures are implemented to educate visitors on preventing pollutants from entering waterways or wastewater treatment systems, including posting signs, pamphlets, interpretive exhibits, or other methods as applicable to the park's operations. [BMP]	3	